

THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY.

[FIFTH SERIES.]

No. 34. OCTOBER 1880.

XXXII.—*The Zoology of Barents Sea.* By W. S. M. D'URBAN, F.L.S., Curator of the Devon and Exeter Albert Memorial Museum.

THROUGH the spirited exertions of the Dutch geographers a small vessel of 79 tons, named the 'Willem Barents,' was fitted out at Amsterdam by subscription, and made two voyages to Barents Sea, between Spitzbergen and Novaya Zemlya, in the summers of 1878 and 1879*. The objects of these expeditions were to examine the state and position of the ice in Barents Sea and, if possible, in the Kara Sea, also to take deep-sea soundings with serial temperatures, and thus supply important contributions to our knowledge of that interesting region. Magnetic and meteorological observations were also to be taken, and natural-history collections to be diligently made at every opportunity. Mr. W. J. A. Grant, a gentleman well known for his skill as a photographer, accompanied both these expeditions, and each time brought back with him some bottles filled with animals dredged in Barents Sea, and preserved in spirits. These he very generously presented to the Museum under my charge. The bottles were carefully labelled with the dates, latitudes, longitudes, and depths at which the specimens were obtained; and

* Accounts of these voyages will be found in the 'Proceedings of the Royal Geographical Society' for January and November 1879. See also the 'Illustrated London News' for January 25, 1879, and January 31, 1880.

as the collections appeared to include many very interesting species, I was anxious to submit them to the best authorities in the various departments. I was so fortunate as to find several eminent scientific gentlemen who were willing to examine the specimens for me. I sent the Crustacea collected in 1878 to the Rev. A. M. Norman, and those obtained in 1879 to Prof. J. O. Westwood; the Mollusca were determined by Dr. Gwyn Jeffreys; the Echinodermata of 1878 were examined by the Rev. A. M. Norman, and those of 1879 by Mr. W. Percy Sladen; Dr. McIntosh named the Annelids; and the Rev. Thomas Hincks has made a laborious examination of the Hydrozoa and Polyzoa. The few Spongia and Actinozoa were examined by Mr. H. J. Carter. I take this opportunity of offering these gentlemen my sincere thanks for their kindness, which has enabled me to draw up a reliable list of the animals brought home by Mr. Grant. As yet nothing seems to have been published by the Dutch naturalists who accompanied the two expeditions, with the exception of a slight sketch of the zoology of the second voyage by Dr. F. H. van Lidth de Jeude, in a pamphlet published at Amsterdam, entitled "De Verslagen omtrent den tocht met de Willem Barents naar en in de Ijszee, in den zomer van 1879 (Uitgegeven vanwege het Aardrijkskundig Genootschap, Bijblad no. 6);" and, as nearly two years have now elapsed since the return of the first expedition, it seems desirable that the information obtained by the study of Mr. Grant's collections should be made available to the scientific public without further delay. Barents Sea was visited by the Austro-Hungarian North-Pole Expedition under Weyprecht and Payer in 1872-1874; and dredgings were made, but mostly to the north and east of the ground examined by the 'Willem Barents' expeditions. A portion of the Invertebrates obtained were catalogued and described by Dr. Emil von Marenzeller in a pamphlet published at Vienna in 1877*. Many of the species he mentions were obtained by the Dutch expedition, and, in addition, many that were not met with by the Austrians.

It is evident that Barents Sea abounds with animal life in a very marked degree. In fact all the explorers of these northern regions seem to have been deeply impressed with the extraordinary richness of the marine fauna of the Arctic seas to the north of Lapland, Russia, and Siberia. Austrians, Dutch, and Swedes alike dwell on the amazing number of

* 'Die Cœlenteraten, Echinodermen und Würmen der k.-k. österreichisch-ungarischen Nordpol-Expedition bearbeitet von Dr. Emil v. Marenzeller.'

animals, both species and individuals, which the dredge brought to the surface.

Certain spots yielded a great variety of animal life, as the following examples will testify:—

On July 18, 1878, in lat. $73^{\circ} 41' 12''$ N., long. $22^{\circ} 58' 30''$ E., at a depth of 210 fathoms, occurred *Halichondria Hyndmani*, *Ctenodiscus crispatus*, *Archaster tenuispinus* and *A. bifrons*, *Ophiopholis bellis*, *Ophiacantha spinulosa*, *Nymphon hirtipes*, *Membranipora arctica* and *M. monostachys*, *Porella struma*, *Terebratula caput-serpentis*, var. *septentrionalis*, *Pecten grælandicus* and *P. Hoskynsi*, *Modiolaria discors*, *Nucula tenuis*, *Leda pernula* and *L. intermedia*, *Arca pectunculoides*, *Astarte crenata*, and *Siphodentalium vitreum*.

On July 30, 1878, in lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., at a depth of 160 fathoms, occurred *Calycella fastigiata*, *Thuiaria articulata*, *Sertularia cupressina*, *Lafoëa grandis*, *Selaginopsis decemserialis*, *Ammonothea glomerata*, *Ctenodiscus crispatus*, *Ophiocten sericeum*, *Astrophyton Lamarckii*, *Ennoa nodosa*, *Nephtys ciliata*, *Cystenides hyperborea*, *Terebellides Stræmii*, *Phascolosoma Strombi*, *Munnopsis typica*, *Acanthostepheia Malmgreni*, *Tritropis Helleri*, *Unciola leucopes*, *Acanthonotosoma inflatum*, *Idotea Sabinii*, *Nymphon hirtipes*, *Flustra membranaceo-truncata*, *Mucronella scutulata* and *M. simplex*, *Crisia eburneo-denticulata*, *Diastopora obelia*, *Hornera* sp., *Alcyonidium excavatum*, *Barentsia bulbosa*, *Phylactella grandis*, *Myrionozoum subgracile*, *Flustra solida* (= *Eschara palmata*), *Scalaria grælandica*, and *Bulla propinqua*.

On August 1, 1878, in lat. $76^{\circ} 58'$ N., long. $45^{\circ} 40'$ E., in 110 fathoms, at the edge of the pack-ice, individuals of the following species were extremely numerous:—Five species of fishes: *Centridermichthys uncinatus*, *Icelus hamatus*, *Agonus decagonus*, *Liparis vulgaris*?, and *Hippoglossoides limandoides*; but the specimens were all of small size. Four crustaceans: *Crangon boreas*, *Sabinea septemcarinata*, *Pandalus annulicornis*, and *Idotea Sabinii*. *Nymphon Stromii* and *N. robustum*. The Echinoderms were *Strongylocentrotus dröbachiensis*, *Crossaster papposus*, var. *affinis*, *Ctenodiscus crispatus*, *Asterias stellionura*, *Ophiopleura arctica*, and *Astrophyton Lamarckii*. No Mollusca were brought to me from this dredging by Mr. Grant; but not far off from this spot on the previous day, in 130 fathoms, in sand and mud, *Lima subovata* was very numerous, with several other shells.

Another rich neighbourhood appears to be off Mesjdujarskii Island, on the south-west of Novaya Zemlya, in from 62 to 67 fathoms, where three species of fish, fourteen species of Mollusca, seven species of Crustacea (including *Alauna*

Goodsiri), nine species of Echinodermata (including *Antedon Eschrichtii*), ten species of Annelids, four species of Polyzoa, six Hydroids (including *Myriothele phrygia*, Fab., and a very large species of *Lucernaria*), and several sponges were obtained on July 31 and August 1, 1879.

When it is considered that Mr. Grant only took such things as were not required by the Dutch naturalists, the above lists will convey some idea of the profusion of animal life in Barents Sea.

Certain animals seem almost universally distributed in this region, such as the interesting tube-worm *Cystenides hyperborea*, which came up in almost every dredging and in great numbers. The Ophiurids *Ophiocten sericeum*, *Ophiopholis bellis*, and *Ophiacantha spinulosa* also occurred almost everywhere, and sometimes choked the dredge with their masses. *Ctenodiscus crispatus* was also very generally distributed at all depths from 62 to 210 fathoms.

Off the north coast of Norway, just outside Barents Sea, the Ophiurids were scarce, and, on the contrary, Brachiopoda, which were rarely met with in Barents Sea, abounded, at least in individuals.

The annexed list of species (p. 258) is tabulated in a similar manner to that given by Dr. Marenzeller; and the two can therefore be readily compared with each other.

SPONGIA.

Mr. Henry J. Carter, F.R.S., has kindly furnished the following descriptions of the two new Sponges:—

Suberites montalbidus.

Form monticular. Colour grey-white. Surface corrugated. Vents, one large on the summit, naked, the rest small, on the sides. Texture soft, matted. Spicules of two kinds, viz. :— 1, skeleton, large, subpinlike, head variable in shape; 2, flesh-spicule, minute, shaft cylindrical, straight or curved, pointed at each end and inflated in the centre. Size of specimen 11-12ths inch in diameter at the base, 8-12ths inch high.

Suberites montiniger.

Form monticular. Colour grey-black. Surface even. Vents, one large at the summit, fringed, the rest small, on the sides. Texture soft, matted. Spicules of one kind only, viz. skeleton, large, subpinlike, head oval, elongated. Size of specimen 13-12ths inch in diameter at the base, 8-12ths inch high.

Hab. Marine, on hard objects.

Loc. Barents Sea, near S.W. end of Novaya Zemlya, in lat. $71^{\circ} 6'$ N., long. 50° E. 31st July, 1879. Depth 62 fathoms.

Obs. Both these sponges are monticular in form, but specifically different, as will be seen in comparing the above descriptions. *Suberites montalbidus*, however, is, with the exception of form and slight differences in the spiculation, the same as *Suberites domuncula*, Sdt., = *Halichondria suberea*, Johnston, common on the British shores. The differences in spiculation chiefly consist in the pinlike spicules of the former not having such a globular or defined head, and the flesh-spicule for the most part being pointed at each end instead of obtuse. Marenzeller mentions the following species collected by the Austro-Hungarian expedition:—

Cacospongia Schmidtii, Mar.; *Chalinula cavernosa*, Mar.; *Isodictya tenera*, Mar.; *Stylocordyla longissima*, G. O. Sars; *Thecophora semisuberites*, Schm., and *T. elongata*, Mar.; *Rinalda uberrima*, Schm.; *Halicnemis hemispherica*, M. Sars; *Microciona ambigua*, Bowbk.; *Cladorhiza abyssicola*, M. Sars; *Ascetta coriacea*, Mont.; *Sycaltis glacialis*, Hæck.; and *Sycandra utriculus*, Schm.

HYDROZOA.

The Rev. Thomas Hincks, B.A., F.R.S., has drawn up the following list of the Hydrozoa:—

Order HYDROIDA.

Suborder Athecata.

Genus MYRIOTHELA, Sars.

? *Myriothela phrygia*, Fabricius.

[Not *M. phrygia* of Allman and Hincks.]

This is distinct from the British species, and probably identical with *Lucernaria phrygia* of Fabricius.

Lat. $71^{\circ} 6'$ N., long. 50° E. Near S.W. end of Novaya Zemlya, 62 fms. [Greenland (*Fabr.*), Norway (*Sars*); off Halifax, N. S., in 52 fms. (*Verrill*).]

Genus EUDENDRIUM, Ehrenberg.

Eudendrium ? sp.

A fragment only occurs, which does not enable me to determine the species. The stem is compound below, but simple

List of Animals collected in Barents Sea by W. J. A. Grant, Esq., in 1878 and 1879.

Name.	Date.	North latitude.	East longitude.	Depth in fathoms.	Remarks.
PROTOZOA.					
<i>Triloculina tricarinata</i> , D'Orb.	17, 7, 78	74° 5' 0"	23° 0' 0"	220	Very large.
COELENTERATA.					
SPONGIA.					
<i>Halichondria Hyndmani</i> , <i>Bl.</i>	18, 7, 78	73° 41' 12"	22° 58' 30"	210	
<i>Suberites montalbidus</i> , <i>H. J. Carter</i> , n. sp.	31, 7, 79	71° 6' 0"	50° 0' 0"	62	See description.
— <i>montingeri</i> , <i>H. J. Carter</i> , n. sp.	31, 7, 79	71° 6' 0"	50° 0' 0"	62	" "
<i>Isodictya</i> (species undetermined)	31, 7, 79	71° 6' 0"	50° 0' 0"	62	Attached to a coral.
HYDROZOA.					
<i>Hydroïda.</i>					
<i>Myriothela phrygia</i> , <i>Fab.</i>	31, 7, 79	71° 6' 0"	50° 0' 0"	62	See note.
<i>Eudendrium</i> species	15, 7, 79	72° 32' 3"	36° 29' 5"	128	A fragment only, probably <i>E. ramosum</i> .
<i>Calycella fastigiata</i> , <i>Alder</i>	30, 7, 78	75° 16' 6"	45° 19' 36"	160	On <i>Aleyonidium</i> .
"	15, 7, 79	72° 32' 3"	36° 29' 5"	128	On <i>Genellaria</i> .
"	1, 8, 79	71° 23' 0"	49° 38' 0"	67	" "
<i>Lafocia grandis</i> , <i>Hincks</i>	30, 7, 78	75° 16' 6"	45° 19' 36"	160	On <i>Myricosium</i> .
<i>Lafocia tenuis</i> , <i>M. Sars</i>	31, 7, 79	71° 6' 0"	50° 0' 0"	62	Off Novaya Zemlya.
"	1, 8, 79	71° 23' 0"	49° 38' 0"	67	On <i>Cellularia Peachii</i> .
<i>Filellum serpens</i> , <i>Hassall</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	Off Bear Island; very fine, on <i>Balanus</i> .
"	17, 7, 78	74° 5' 0"	23° 0' 0"	220	On <i>Sertularella</i> .
<i>Halecium muricatum</i> , <i>Ellis & Sol.</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	Amongst <i>Genellaria</i> .

Sertularia tricuspida, <i>Alder</i>	14, 7, 78	74	6	0	18	5	0	25	Very abundant.
"	17, 7, 78	74	5	0	23	0	0	220	
Sertularia quadricornuta, <i>Hincks</i> , n. sp.	14, 7, 78	74	6	0	18	5	0	25	Off Bear Island.
Thunaria articulata, <i>Pallas</i>	30, 7, 78	75	16	6	45	19	36	160	
Selaginopsis decemserialis, <i>Mereschkowsky</i> ..	14, 7, 78	74	6	0	18	5	0	25	Off Bear Island.
"	17, 7, 78	74	5	0	23	0	0	220	
Sertularia cupressina, <i>L.</i>	30, 7, 78	75	16	6	45	19	36	160	One specimen.
<i>Calycozoa.</i>									
Lucernaria campanulata?, <i>M.-Ed.</i>	1, 8, 79	71	23	0	49	38	0	67	Very large.
ACTINOZOA.									
Annothea glomerata, <i>Carter</i> , n. sp.	29, 7, 78	74	6	42	45	1	42	160	See description.
"	30, 7, 78	75	16	6	45	19	36	160	On <i>Tubularia</i> .
"	1, 8, 78	76	58	0	45	40	0	110	
"	31, 7, 79	71	6	0	50	0	0	62	Attached to shells.
"	1, 8, 79	71	28	0	49	38	0	67	
Gersenia florida, <i>Rathke</i>	15, 7, 79	72	32	3	36	29	5	128	
ECHINODERMATA.									
HOLOTHUROIDEA.									
Eurygus scaber, <i>Lütken</i>	31, 7, 79	71	6	0	50	0	0	62	Off S.W. coast of Novaya Zemlya.
ECHINOIDEA.									
Strongylocentrotus dröbachiensis (<i>O. F. Muller</i>)..	1, 8, 78	76	58	0	45	40	0	110	
"	19, 7, 79	75	23	5	38	39	5	88	
"	31, 7, 79	71	6	0	50	0	0	62	Off S.W. coast of Novaya Zemlya.
ASTEROIDEA.									
Asteracanthion groenlandicus, <i>Stp.</i>	31, 7, 79	71	6	0	50	0	0	62	Off S.W. coast of Novaya Zemlya.
Crossaster papposus (<i>Lütken</i>), var. affinis, <i>Brandt.</i> ..	1, 8, 78	76	58	0	45	40	0	110	8 rays.
Ctenodiscus crispatus, <i>Retz.</i> , = <i>corniculata</i> (<i>Lütken</i>)	18, 7, 78	73	41	12	22	58	30	210	
"	24, 7, 78	72	5	6	37	57	18	140	
"	30, 7, 78	75	16	6	45	19	36	160	
"	1, 8, 78	76	58	0	45	40	0	110	

List (continued).

Name.	Date.	North latitude.	East longitude.	Depth in fathoms.	Remarks.
<i>Otenodiscus crispatus</i> , Retz., = <i>corniculata</i> (Linné)	15, 7, 79	72 32	86 39	128	
"	31, 7, 79	71 6	50 0	62	
<i>Archaster tenuispinus</i> , Düb. & Kor.	18, 7, 78	73 41	22 58	210	
"	29, 7, 78	74 6	42 45	142	
<i>Archaster bifrons</i> , Ny. Thomson	18, 7, 78	73 41	22 58	210	Young.
<i>Asterias stelleriana</i> , Ferrier	1, 8, 78	76 58	0 45	110	One specimen.
OPHIUROIDEA.					
<i>Ophioglypha Sarsii</i> , Lütken.	31, 7, 79	71 6	0 50	62	
" <i>robusta</i> (Ayres)	31, 7, 79	71 6	0 50	62	
<i>Ophiocten sericeum</i> (Forbes)	14, 7, 78	74 6	0 18	5	25
"	29, 7, 78	74 6	42 45	142	160
"	30, 7, 78	75 16	6 45	19	36
"	31, 7, 78	76 31	18 45	36	30
"	15, 7, 79	75 23	5 38	39	5
"	31, 7, 79	71 6	0 50	0	62
<i>Ophiopholis bellis</i> (Linné)	18, 7, 78	73 41	12 22	58	30
"	29, 7, 78	74 6	42 45	142	160
"	31, 7, 78	76 31	18 45	36	30
"	15, 7, 79	72 32	3 36	39	5
"	1, 8, 79	71 23	0 49	38	0
"	1, 8, 78	76 58	0 45	40	0
<i>Ophiopleura arctica</i> , Duncan	18, 7, 78	73 41	12 22	58	30
<i>Ophiacantha spinulosa</i> , Müll. & T.	29, 7, 78	74 6	42 45	142	160
"	31, 7, 78	76 31	18 45	36	30
"	15, 7, 79	72 32	3 36	39	5
"	31, 7, 79	71 6	0 50	0	62
<i>Astrophyton Lamarekii</i> , Müll. & T.	30, 7, 78	75 16	6 45	19	36
"	1, 8, 78	76 58	0 45	40	0

Very abundant.
 Very abundant.
 Very abundant.
 Very abundant.
 " "
 " "
 Young (see note).

CERINOIDEA.									
Antedon	Eschrichtii (Müll.)	1, 8, 79	71 23	0 49 38	0 67				Off S.W. coast of Novaya Zemlya.
VERMES.									
ANNELIDA.									
Evarne	impar (Johust.)	31, 7, 79	71 6	0 50 0	0 62				Off S.W. coast of Novaya Zemlya.
Antinoë	Sarsi, Kinbg.	31, 7, 79	71 6	0 50 0	0 62				
Lagisca	rarispina, Sars	31, 7, 79	71 6	0 50 0	0 62				
Emnea	nodosa, Sars	30, 7, 78	75 16	6 45 19	36 160				In shelly tubes; off S.W. coast of Novaya Zemlya.
Northia	hyperborea, Hansen	31, 7, 79	71 6	0 50 0	0 62				In shells of Trochus.
Nychia	cirrosa, Pallas	31, 7, 79	71 6	0 50 0	0 62				
Nereis	zonata, Mgrn.	31, 7, 79	71 6	0 50 0	0 62				
Nephtys	ciliata, O. F. Müller	30, 7, 78	75 16	6 45 19	36 160				
"	"	15, 7, 79	72 32	3 36 29	5 128				
"	"	31, 7, 79	71 6	0 50 0	0 62				
"	"	15, 7, 79	72 32	3 36 29	5 128				
Ephesia	gracilis, H. Rathke	15, 7, 79	72 32	3 36 29	5 128				
Trophonia	Whiteavesii, Müll. & T., variety	15, 7, 79	72 32	3 36 29	5 128				
Brada	arenosa, McIntosh (= granosa, Sfp.)	15, 7, 79	72 32	3 36 29	5 128				
Terebellides	Stremii, Sars	30, 7, 78	75 16	6 45 19	36 160				
Cystenides	hyperborea, Mgrn.	24, 7, 78	72 5	6 37 57	18 140				Plentiful.
"	"	29, 7, 78	74 6	42 45 1	42 160				
"	"	30, 7, 78	75 16	6 45 19	36 160				
"	"	31, 7, 78	76 31	10 45 36	30 130				
"	"	19, 7, 79	75 23	5 38 39	5 88				
"	"	31, 7, 79	71 6	0 50 0	0 62				
Sabella	spitsbergensis, Mgrn.	31, 7, 79	71 6	0 50 0	0 62				
Dasychone	species	31, 7, 79	71 6	0 50 0	0 62				
GEPHYREA.									
Phascolosoma	Strombi, Mont.	29, 7, 78	74 6	42 45 14	2 160				In broken tubes of Cystenides.
"	"	30, 7, 78	75 16	6 45 19	36 160				
"	"	19, 7, 79	75 23	5 38 39	5 88				

List (continued).

Name.	Date.	North latitude.	East longitude.	Depth in fathoms.	Remarks.
ARTHROPODA.					
CRUSTACEA.					
<i>Cirripedia.</i>					
Balanus balanoides, L.	14, 7, 78	74 6 0	0 18 5 0	25	Very abundant off Bear Island.
— porcatus, Da Costa	23, 8, 78	73 30 0	54 30 0		On dead <i>Fucus</i> -shell on shore, Matotschkin Shar.
<i>Edriophthalma.</i>					
Anonyx nugax (Phipps)	31, 7, 79	71 6 0	50 0 0	62	
Acanthonotosoma inflatum (Krøyer)	30, 7, 78	75 16 6	45 19 36	160	
Gammaracanthus loricatus (Sabine)	31, 7, 79	71 6 0	50 0 0	62	
Amphithoë læviuscula, Bell?	15, 7, 79	72 32 3	36 39 5	128	
Acanthostephia Malmgreni (Goës)	30, 7, 78	75 16 6	45 19 36	160	
Tritopsis Helleri, Boeck	14, 7, 78	74 6 0	18 5 0	25	Off Bear Island.
" "	30, 7, 78	75 16 6	45 19 36	160	
Munnopsis typica, Sars	30, 7, 78	75 16 6	45 19 36	160	
Unciola leucopes (Krøyer)	30, 7, 78	75 16 6	45 19 36	160	
Hyperia cyaneæ (Sab.)	15, 7, 79	72 23 3	36 39 5	128	Immature.
Idotea Sabinii, Krøyer	30, 7, 78	75 16 6	45 19 36	160	Small specimens.
" "	31, 7, 78	76 31 18	45 36 30	130	On sand and mud.
" "	1, 8, 78	76 58 0	45 40 0	110	Large and numerous.
<i>Podophthalma.</i>					
Alauna Goodsiri, Bell	31, 7, 79	71 6 0	50 0 0	62	
Hippolyte macilenta, Krøyer	24, 7, 78	72 5 6	37 57 18	140	
— Belcheri, Bell	31, 7, 79	71 6 0	50 0 0	62	
Pandalus annulicornis, Leach	1, 8, 78	76 58 0	45 40 0	110	

Crangon boreas, Phipps	1, 8, 78	76	58	0	45	50	0	110	Very numerous.
Sabinea septemcarinata, Sabine	1, 8, 78	76	58	0	45	40	0	110	Very fine and numerous; ♀ loaded with eggs.
"	15, 7, 79	72	32	3	36	39	5	128	Small specimens.
"	31, 7, 79	71	6	0	50	0	0	62	Off Bear Island.
"	1, 8, 79	71	23	0	49	38	0	67	Off Novaya Zemlya, in shells of <i>Natica</i> , <i>Buccinum</i> , &c.
Eupagurus pubescens, Krøyer	14, 7, 78	74	6	0	18	5	0	25	
"	31, 7, 79	71	6	0	50	0	0	62	
"	1, 8, 79	71	23	0	49	38	0	67	
Nymphon hirtipes, Bell	18, 7, 78	73	41	12	22	58	30	210	
"	30, 7, 78	75	16	6	45	19	36	160	
"	1, 8, 79	71	23	0	49	38	0	67	
Nymphon Strömii, Krøyer	1, 8, 78	76	58	0	45	40	0	110	Very plentiful.
— robustum, Bell	1, 8, 78	76	58	0	45	40	0	110	"
— gracile, Leach	31, 7, 79	71	6	0	50	0	0	62	"
— grossipes, L.	1, 8, 79	71	23	0	49	38	0	67	"
MOLLUSCA.									
MOLLUSCOIDEA.									
<i>Polyzoa.</i>									
Gemellaria loricata, Busk	14, 7, 78	74	6	0	18	5	0	25	Very fine and abundant off Bear Island.
"	15, 7, 79	72	32	3	36	29	5	128	Dark-coloured variety.
Cellularia Peachii, Busk	31, 7, 79	71	23	0	49	38	0	67	Off Novaya Zemlya.
Menipea ternata, Ellis & Sol.	14, 7, 78	74	6	0	18	5	0	25	Off Bear Island.
"	31, 7, 79	71	6	0	50	0	0	62	Off Novaya Zemlya.
"	1, 8, 79	71	23	0	49	38	0	67	Abundant.
Menipea ternata, Ellis & Sol., forma gracilis, Smitt.	15, 7, 79	72	32	3	36	29	5	128	
Bugula Murrayana, Johnston.	15, 7, 79	72	32	3	36	29	5	128	
Flustra membranaceo-truncata, Smitt	30, 7, 78	75	16	6	45	19	36	160	
Membranipora monostachys, Busk	18, 7, 78	73	41	12	22	58	30	210	On stones, &c.
— lineata, L.	18, 7, 78	73	41	12	25	58	30	210	"
— craticula, Alder	14, 7, 78	74	6	0	18	5	0	25	"

List (continued).

Name.	Date.	North latitude.	East longitude.	Depth in fathoms.	Remarks.
<i>Membranipora sophiae</i> , <i>Busk</i>	14, 7, 78	0° 6' 0"	18° 5' 0"	25	On stones &c.
— <i>arctica</i> , <i>Smitt</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	Very common on stones, shells, &c. and also free and erect.
"	18, 7, 78	73° 41' 12"	22° 58' 30"	210	
<i>Microporella ciliata</i> , <i>Pallas</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	On stones.
<i>Porina tubulosa</i> , <i>Norman</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	On stones.
<i>Myriozoum subgracile</i> , <i>D'Orb.</i>	30, 7, 78	75° 16' 6"	45° 19' 36"	160	On stones.
<i>Schizoporella sinuosa</i> , <i>Busk</i>	24, 7, 78	72° 55' 0"	37° 57' 18"	150	On stones.
— <i>hyalina</i> , <i>L.</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	On stones.
— <i>plana</i> , <i>Dawson</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	On stones.
(<i>Myriozoum crustaceum</i> , <i>Smitt.</i>)					
<i>Porella struma</i> , <i>Norman</i>	18, 7, 78	73° 41' 12"	22° 58' 30"	210	
<i>Phylactella</i> ? <i>grandis</i> , <i>Hincks</i> , n. sp.	30, 7, 78	75° 16' 6"	45° 19' 36"	160	
<i>Mucronella scutulata</i> , <i>Busk.</i>	30, 7, 78	75° 16' 6"	45° 19' 36"	160	On stones.
— simplex, <i>Hincks</i> , n. sp.	30, 7, 78	75° 16' 6"	45° 19' 36"	160	
<i>Eschara</i> (<i>Flustra</i>) <i>solida</i> , <i>Stimpson</i> (= <i>Eschara palmata</i> , <i>Sars</i> , and <i>Escharella palmata</i> , <i>Smitt</i>)	30, 7, 78	75° 16' 6"	45° 19' 36"	160	Abundant.
<i>Eschara glabra</i> , <i>Hincks</i> , n. sp.	30, 7, 78	75° 16' 6"	45° 19' 36"	160	
<i>Cellepora</i> , ? n. sp.	15, 7, 79	72° 32' 3"	36° 29' 5"	128	On <i>Eudendrium</i> .
<i>Crisia eburneo-denticulata</i> , <i>Smitt</i>	30, 7, 78	75° 16' 6"	45° 19' 36"	160	
<i>Diastopora obelia</i> , <i>Johnst.</i>	30, 7, 78	75° 16' 6"	45° 19' 36"	160	On <i>Flustra solida</i> , <i>Stp.</i>
<i>Hornera</i> , ? sp.	30, 7, 78	75° 16' 6"	45° 19' 36"	160	
<i>Lichenopora verrucaria</i> , <i>Fab.</i>	14, 7, 78	74° 6' 0"	18° 5' 0"	25	On <i>Balanus</i> .
<i>Alyonidium excavatum</i> , <i>Hincks</i> , n. sp.	30, 7, 78	75° 16' 6"	45° 19' 36"	160	Abundant, attached to tubes of <i>Annelids</i> .
<i>Arachnidium simplex</i> , <i>Hincks</i> , n. sp.	31, 7, 79	71° 6' 0"	50° 0' 0"	62	
<i>Bustia nitens</i> , <i>Alder.</i>	15, 7, 79	72° 32' 3"	36° 29' 5"	128	On <i>Eudendrium</i> .
<i>Barentsia bulbosa</i> , <i>Hincks</i> , n. sp.	30, 7, 78	75° 16' 6"	45° 19' 36"	160	
<i>Loxosoma singulare</i> , <i>Kieferstein</i>	31, 7, 79	71° 6' 0"	50° 0' 0"	62	On <i>Menipea</i> .

Brachiopoda.

Terebratula caput-serpentis, L., var. septentrionalis.....
Terebratula spitzbergensis, Davidson.....

MOLLUSCA PROPER.

Conchifera.

Pecten grenlandicus, G. B. Sowerby.....
 " *Hoskynsi, Forbes*.....
Lima subovata, Jeffreys.....
Modiolaria discors, L......
 ".....
Nucula tenuis, Mont., var. inflata, Hancock.....
 ".....
 ".....
 ".....
Leda limatula, Say.....
 ".....
Leda permula, Müll......
 ".....
 ".....
 ".....
 ".....
 ".....
 ".....
Leda intermedia, M. Sars.....
 ".....
 ".....
Leda abyssicola, Torell.....
 ".....
Arca glacialis, Gray.....
 ".....
 ".....
 ".....

210
88

210
88
220
130
25
210
25
210
160
88
88
62
25
210
140
160
130
88
62
25
210
160
130
25
140
145
160

Very large.

Very fine.

18, 7, 78
19, 7, 79
18, 7, 78
19, 7, 79
17, 7, 78
31, 7, 78
14, 7, 78
18, 7, 78
14, 7, 78
18, 7, 78
29, 7, 78
19, 7, 79
31, 7, 79
14, 7, 78
18, 7, 78
24, 7, 78
29, 7, 78
31, 7, 78
19, 7, 79
31, 7, 79
14, 7, 78
18, 7, 78
19, 7, 79
29, 7, 78
31, 7, 78
14, 7, 78
24, 7, 78
24, 7, 78
29, 7, 78

73 41 12
75 23 5
73 41 12
75 23 5
74 5 0
76 31 18
78 6 0
78 41 12
78 6 0
78 41 12
74 6 42
75 23 5
75 23 5
71 6 0
78 6 0
78 41 12
78 2 5
78 2 5
78 74 6 42
76 31 18
75 23 5
79 71 6 0
78 6 0
78 41 12
72 5 6
78 74 6 42
76 31 18
75 23 5
78 6 0
78 41 12
74 6 42
78 6 0
78 72 5 6
78 72 5 30
78 74 6 42

22 58 30
38 39 5
22 58 30
45 36 30
18 5 0
22 58 30
18 5 0
22 58 30
45 1 42
38 39 5
38 39 5
50 0 0
18 5 0
22 58 30
38 39 5
45 1 42
38 39 5
50 0 0
18 5 0
22 58 30
45 1 42
45 36 30
18 5 0
37 57 18
37 57 18
45 1 42

List (continued).

Name.	Date.	North latitude.	East longitude.	Depth in fathoms.	Remarks.
<i>Arca glacialis</i> , Gray	31, 7, 78	76 31 18	6 36 30	130	
"	19, 7, 79	75 23 5	38 39 5	88	
<i>Arca pectunculoides</i> , Scacchi	18, 7, 78	73 41 12	22 58 30	210	Large specimens.
<i>Cardium islandicum</i> , L.	19, 7, 79	75 23 5	38 39 5	88	Young.
"	31, 7, 79	71 6 0	50 0 0	62	"
<i>Astarte crenata</i> , Gray	18, 7, 78	73 41 12	22 58 30	210	
"	24, 7, 78	72 5 30	37 57 18	145	
"	19, 7, 79	75 23 5	38 39 5	88	
<i>Astarte fabula</i> , Keene	19, 7, 79	75 23 5	38 39 5	88	
"	31, 7, 79	71 6 0	50 0 0	62	
"	31, 7, 79	71 6 0	50 0 0	62	
<i>Astarte borealis</i> , Chemnitz	24, 7, 78	72 5 30	37 57 18	145	
<i>Tellina calcarea</i> , Chemn.	19, 7, 79	72 23 5	38 39 5	88	
"	31, 7, 79	71 6 0	50 0 0	62	
"	19, 7, 79	72 23 5	38 39 5	88	
"	31, 7, 79	71 6 0	50 0 0	62	
<i>Saxicava rugosa</i> , L., var. <i>precisa</i>	14, 7, 78	78 6 0	18 5 0	25	
"	24, 7, 78	72 5 6	37 57 18	140	
"	24, 7, 78	72 5 30	37 57 18	145	
"	31, 7, 78	76 31 18	45 36 3	130	Very large.
"	19, 7, 79	75 23 5	38 39 5	88	
<i>Solenocoenchia.</i>					
<i>Siphodontalium vitreum</i> , M. Sars	17, 7, 78	74 5 0	23 0 0	220	
"	18, 7, 78	73 41 12	22 58 30	210	
"	29, 7, 78	74 6 42	45 1 42	160	
<i>Gastropoda.</i>					
<i>Lepeta creca</i> , Müll.	24, 7, 78	72 5 6	37 57 18	140	
"	24, 7, 78	72 5 30	37 57 18	145	
"	15, 7, 79	72 32 3	36 39 5	128	

Trochus groenlandicus, <i>Chemn.</i>	14, 7, 78	78	6	0	18	5	0	25
Trochus varicosus, <i>Mighels</i>	29, 7, 78	74	6	42	45	1	42	160
"	19, 7, 79	75	23	5	38	39	5	88
"	31, 7, 79	71	6	0	50	0	0	62
" cinereus, <i>Couthouy</i> , var. <i>arctica</i>	31, 7, 79	71	6	0	50	0	3	62
Scalaria groenlandica, <i>Chemn.</i>	30, 7, 78	75	16	6	45	19	36	160
Natica affinis, <i>Gmelin</i>	14, 7, 78	78	6	0	18	5	0	25
"	29, 7, 78	74	6	42	45	14	2	160
Natica groenlandica, <i>Beck</i>	29, 7, 78	74	6	42	45	14	2	160
"	15, 7, 79	72	32	3	36	39	5	128
"	31, 7, 79	71	6	0	50	0	0	62
"	15, 7, 79	72	32	3	36	39	5	128
Cancellaria viridula, <i>Fabricius</i> , var.	14, 7, 78	74	6	0	18	5	0	25
Buccinum undatum, <i>L.</i>	31, 7, 78	76	31	18	45	36	30	130
"	31, 7, 79	71	6	0	50	0	0	62
Buccinum glaciale, <i>L.</i>	31, 7, 79	71	6	0	50	0	0	62
" ciliatum, <i>Fabr.</i> , var.	31, 7, 79	75	23	5	38	39	5	88
Fusus tortuosus, <i>Reeve</i>	31, 7, 79	71	6	0	50	0	0	62
"	23, 8, 78	73	30	0	54	30	0	..
Fusus despectus, <i>L.</i> , var.	29, 7, 78	74	6	42	45	1	42	160
Pleurotonia bicarinata, <i>Couth.</i>	17, 7, 78	74	5	0	23	0	0	220
" turricula, <i>Mont.</i> , var. <i>nobilis</i>	31, 7, 79	71	6	0	50	0	0	62
" pyramidalis, <i>Ström</i>	29, 7, 78	74	6	42	45	1	42	160
Bulla propinqua, <i>M. Sars</i>	30, 7, 78	75	16	6	45	19	36	160
"	19, 7, 79	75	23	5	38	39	5	88
Bulla striata, <i>Broen</i>								

Young.
 Young.
 Egg-capsule and spawn.
 Young.
 "
 "
 Dead shell, on shore, Matotschkin

[Shar.

VERTEBRATA.

PISCES.

Centridermichthys uncinatus, <i>Reinh.</i>	1, 8, 78	76	58	0	45	40	0	110
Icelus hanatus, <i>Kröyer</i>	1, 8, 78	76	58	0	45	40	0	110
Agonus decagonus, <i>Bl. Schn.</i>	1, 8, 78	76	58	0	45	40	0	110
"	31, 7, 79	71	6	0	50	0	0	62
"	31, 7, 79	71	6	0	50	0	0	62
Aspidophoroides monopterygius (<i>Bloch</i>)	1, 8, 78	76	58	0	45	40	0	110
Liparis vulgaris?, <i>Flem.</i>	31, 7, 79	71	6	0	50	0	0	62
Blennius species	1, 8, 78	76	58	0	45	40	0	110
Hippoglossoides limandoides (<i>Bl.</i>)	31, 7, 79	71	6	0	50	0	0	62
"	1, 8, 78	76	58	0	45	40	0	110

At edge of pack-ice.

" "

Young.

One specimen in a bad state.

At edge of pack-ice.

towards the extremity, and of a rather dark horn-colour. Branches are given off irregularly, which are ringed at the base and at intervals above it; they bear alternate polypiferous ramules, similarly annulated. The form is nearly allied to *E. ramosum*, if not identical with it.

Lat. $72^{\circ} 32' 3''$ N., long. $36^{\circ} 29' 5''$ E., 128 fms.

Suborder Thecaphora.

Genus CALYCELLA, Hincks.

Calycella fastigiata, Alder.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms., on *Alcyonidium*; lat. $72^{\circ} 32' 3''$ E., long. $36^{\circ} 29' 5''$ E., 128 fms., on *Gemellaria*, &c.; lat. $71^{\circ} 23'$ N., long. $49^{\circ} 38'$ E., 67 fms.

In the Barents-Sea specimens the pedicels are long and distinctly annulated; in the British examples which I have seen they are smooth.

Genus LAFOËA, Lamouroux.

Laföëa grandis, Hincks.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., on *Myriozoum*, 160 fms. [Davis Straits, 100 fms. (*Wallich*); Atlantic coasts of America (*Verrill*).]

Genus LAFOËINA, M. Sars.

Laföëina tenuis, Sars.

Lat. $71^{\circ} 23'$ N., long. $49^{\circ} 38'$ E., on *Cellularia Peachii*, in 67 fms., and lat. $71^{\circ} 6'$ N., long. 50° E., in 62 fms., off Novaya Zemlya.

Genus FILELLUM, Hincks.

Filellum serpens, Hassall.

Lat. 74° N., long. 23° E., in 220 fms., on *Sertularella tricuspidata*. Also very fine on *Balanus*, off Bear Island, in 25 fms.

Genus HALECIUM, Oken.

Halecium muricatum, Ellis and Solander.

Fragments with fine capsules amongst a mass of *Gemellaria loricata*, off Bear Island, in 25 fms.

Genus SERTULARELLA, Gray.

Sertularella tricuspidata, Alder.

Extremely abundant. Lat. 74° N., long. 23° E., in

220 fms.; and also off Bear Island, in 25 fms. As is usual in Arctic specimens, the capsules are present in profusion.

Sertularella quadricornuta, n. sp.

Bear Island, in 25 fms.

Genus THUIARIA, Fleming.

Thuiaria articulata, Pallas.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., in 160 fms. Obtained by Austro-Hungarian expedition in lat. $76^{\circ} 14' N.$, long. $58^{\circ} 54' E.$, 100 metres. [British Seas.]

Genus SELAGINOPSIS, Allman.

Selaginopsis decemserialis, Mereschkowsky.

Lat. $74^{\circ} N.$, long. $23^{\circ} E.$, in 220 fms., and also off Bear Island, in 25 fms. [Northern Pacific Ocean (*Mereschkowsky*).]

Genus SERTULARIA, Linn.

Sertularia cupressina, L.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E. A single specimen from 160 fms. [British Seas; Labrador (*Packard*); Massachusetts Bay (*Agassiz*).]

Marenzeller mentions the following species which were not in Mr. Grant's collection:—*Corymorpha glacialis*, M. Sars; *Salacia abietina*, M. Sars; *Laföëa dumosa*, Flem.; and *L. fruticosa*, M. Sars.

ACTINOZOA.

Mr. H. J. Carter considers the *Ammothea* which occurred abundantly in Barents Sea, and of which Mr. Grant brought me many specimens, distinct from *A. Luetkeni* of Marenzeller. He has drawn up the following description:—

Ammothea glomerata.

Cauliflower-like, consisting of more or less verruciform polyps aggregated into tuberoso, globular masses, arising from a longitudinally corrugated stem. Colour, in spirits, white. Texture cartilaginous. Surface irregular, on account of the variety in size and variable amount of projection of the polyps. Composed of subcartilaginous material charged with calcareous spicules. Polyps octotentacular, the largest about 1-24th inch in diameter; tentacles tubular, coated both inside

and out with spicules; spicules comparatively long, slightly curved, slightly clavate, more or less covered irregularly with small tubercles, 1-100th by 1-750th inch in their greatest dimensions.

Hab. Marine, growing on the stems of *Tubularia* and attached to shells, 62 to 160 fms., Barents Sea.

Obs. This differs from *Ammothea Luetkeni*, Marenzeller (Coelent., Echinod. u. Würmer der k.-k. österreichisch-ungarischen Nordpol-Exp. p. 16, Taf. iii. fig. 1: Wien, 1877, 4to), in the more or less agglomerated condition of the polyps, which in *A. Luetkeni* are separate like bunches of grapes. The latter has been found on the west coast of Greenland, and by Capt. Feilden in Smith Sound. With reference to the disputed point about the "retractile" nature of the polyps in *Ammothea*, there can be no doubt that they are verruciform and composed of tubular tentacles coated all over, both inside (that is, towards the internal cavity of the polyps) and outside, with spicules, as above stated; while in *Lobularia* they are attached to a retractile tube *within* the radiated aperture of the surface. Hence, as stated by Kölliker (*apud* Marenzeller), they are *not retractile*. In *Ammothea* the only tentacles are those seen on the outside of the cell, which is not imbedded in the matrix.

Marenzeller mentions the following Actinozoa as having been met with by the Austro-Hungarian expedition:—*Ammothea Luetkeni*, Mar.; *Gersemia florida*, Rathke, and *G. loricata*, Mar.; *Umbellula encrinus*, L.; *Paragoria arborea*, L.; *Urticina felina*, L.; *Phellia*, sp. ?; and *Zoanthus arcticus*, M. Sars.

Dr. van Lidth de Jeude mentions a species of *Actinia* as having been found in three dredgings. On one occasion two specimens were obtained attached to a large whelk(?)-shell. One or two corals brought home by Mr. Grant have not yet been determined.

ECHINODERMATA.

Crossaster papposus (Linck), var. *affinis* (Brandt).

The only specimen brought me by Mr. Grant had but eight rays.

Ophiopleura arctica, Duncan, in Ann. & Mag. Nat. Hist.
August and September 1878.

Only two specimens of this rare Ophiurid were brought me by Mr. Grant.

Astrophyton Lamarckii, Müll. et Tr.

Respecting the young specimen of this species taken in lat. $76^{\circ} 58' N.$, long. $45^{\circ} 40' E.$, in 110 fms., the Rev. A. M. Norman remarks as follows:—"The tubercles on the ribs of the disk make this, at first sight, to look like *A. Agassizii*; but the arms are not granular as in that species, and I therefore conclude that with advancing growth the tubercles on the ribs would disappear, instead of being developed into the irregular spines of *Agassizii*. I therefore suppose this specimen to be the young of *A. Lamarckii*."

Marenzeller mentions the following species, of which there were no examples in Mr. Grant's collections:—*Haplodactyla arctica*, Marenzeller; *Psolus Fabricii*, D. & K.; *Pteraster militaris*, O. F. Müller; *Stichaster albulus*, Stp.; *Corethaster hispidus*, Wy. Thom.; *Amphiura Sundevalli*, M. & T.; *Astrophyton eucnemis*, M. & T.; *Antedon celtica*, Barrett; and *A. Sarsii*, D. & K.

Dr. van Lidth de Jeude alludes to the following:—*Molpadia*, sp., *Psolus*, sp., in great numbers on 15th July, 1879, in 138 fms.; *Cribella sanguinolenta*, on 17th July, in 127 fms.; *Ophiocoma nigra*, *Asteronyx Loveni*?, and a *Comatula* on 5th and 17th July, in 100 and 127 fms.

VERMES.

Dr. van Lidth de Jeude mentions the following species of worms, of which there are no representatives in Mr. Grant's collections:—*Ampharete arctica*, *Sciöne lobata*, *Onuphis Eschrichtii*, *Clymene lumbricalis*, *Brada villosa* and *B. granulata*, and *Phyllodoce grænlandica*.

Dr. Marenzeller enumerates the following species which were apparently not obtained by the Dutch expeditions:—*Cerebratulus angulatus*, O. F. Müller; *Scalibregma inflatum*, Rathke; *Cistenides granulata*, L.; *Ampharete Goesi*, Mgrn.; *Amphicteis Gunneri*, M. Sars; *Melinna cristata*, M. Sars; *Amphitrite cirrata*, O. F. Müller; *Thelepus circinatus*, F.; *Euchone tuberculosa*, Kröyer; *Chone infundibuliformis*, Kröyer; and *C. Duneri*, Mgrn.; *Spirorbis lucidus*, Mont. (this is probably the species which occurs on some of the Polyzoa brought home by Mr. Grant); *Hyalopotamus Claparedii*, Mar.; *Eucrante villosa*, Mgrn.; *Nephtys longosetosa*, Örst.; *Phyllodoce Luetkeni*, Mgrn.; *Syllis fasciata*, Mgrn.; *Nereis pelagica*, L.; *Northia conchylega*, M. Sars; *Glycera capitata*, Örst.; *Phascolosoma Örstedii*, Kef.; and *Echiurus forcipatus*, Rein.

The Gephyrean *Phascolosoma Strombi*, Mont., was found inhabiting repaired tubes of *Cystenides hyperborea*.

CRUSTACEA.

Dr. van Lidth de Jeude mentions *Hippolyte polaris* and *H. Sowerbyi* as having been dredged (the latter in great numbers) on 17th July, 1879. He also mentions *Pagurus Bernhardus* as being frequent at Matotschkin Shar, and a species of *Hyas*.

POLYZOA.

The Rev. Thomas Hincks has furnished the following list the species collected by Mr. Grant:—

Subclass HOLOBRANCHIA.

Group *a.* ECTOPROCTA.

Order GYMNOLÆMATA.

Suborder Cheilostomata.

Genus GEMELLARIA, Savigny.

Gemellaria loricata, L.

Very abundant off Bear Island, in 25 fms. A dark-coloured variety occurs, with much elongated internodes, in lat. $72^{\circ} 32' 3''$ N., long. $36^{\circ} 29' 5''$ E. [St. Lawrence, *Dawson*.]

Genus CELLULARIA, Pallas.

Cellularia Peachii, Busk.

Lat. $71^{\circ} 23'$ N., long. $49^{\circ} 38'$ E., 67 fms., off S.W. end of Novaya Zemlya. [St. Lawrence, *Dawson*.]

Genus MENIPEA, Lamouroux.

Menipea ternata, Ellis & Solander (normal form).

Extremely abundant, as in all northern dredgings.

Menipea ternata (forma *gracilis*, Smitt) = *M. gracilis*, Busk.

Lat. $72^{\circ} 32' 3''$ N., long. $36^{\circ} 29' 5''$ E., 128 fms. [F.-Pierce Bay, lat. $79^{\circ} 29'$ N., last British Arctic expedition.]

Genus BUGULA, Oken.

Bugula Murrayana, Johnston.

On *Gemellaria loricata*, lat. $72^{\circ} 32'$ N., long. $36^{\circ} 29' 5''$ E., 128 fms. [St. Lawrence, *Dawson*; lat. $79^{\circ} 29'$ N., last Brit. Arctic exped.]

Genus FLUSTRA, Linnæus.

Flustra membranaceo-truncata, Smitt.

An essentially Arctic form. In this species membranous processes are given off from the back of the cells, terminating in branched fibrils, by which the zoarium is attached. This structure, which is not shared by other members of the genus, points to some peculiarity in the conditions of life.

Genus MEMBRANIPORA, Blainville.

Membranipora monostachys, Busk.

On stones &c., lat. 74° N., long. 24° E., 220 fms.

Membranipora lineata, L.

On stones off Bear Island, 25 fms.

Membranipora craticula, Alder.

On stones off Bear Island, 25 fms. [St. Lawrence, Dawson.]

Membranipora Sophieæ, Busk.

On stones off Bear Island, in 25 fms.

Membranipora arctica, Smitt.

Extremely common. This is the most abundant species amongst the dredgings from Barents Sea. It occurs creeping over stones, shells, &c., and also erect and free, forming expansions composed of a single lamina or of two (*Hemeschara* or *Eschara* auctt.). In the Hemescharine state the dorsal surface of the zoecia is seen to be thickly covered with minute white disks. Lat. 74° N., long. 23° E., 220 fms.; and off Bear Island, 25 fms.

Genus MICROPORELLA, Hincks.

Microporella ciliata, Pallas.

On stones off Bear Island. The zoecia are much calcified and often coarsely grooved, the furrows extending from the margin to the umbo, which overhangs the pore. The latter is suborbicular and strongly dentate, and is placed in a hollow between the umbo and the lower lip. The avicularium is very generally wanting.

Genus PORINA, D'Orbigny.

Porina tubulosa, Norman.

On stones off Bear Island, 25 fms. [St. Lawrence, Dawson.]

Genus MYRIOZOOM.

Myriozoom subgracile, D'Orb.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms. Lat. $75^{\circ} 36' 3''$ N., long. $57^{\circ} 6' 7''$ E. (*Marenzeller*).

Genus SCHIZOPORELLA, Hincks.

Schizoporella sinuosa, Busk.

On stones, lat. $72^{\circ} 55'$ N., long. $37^{\circ} 57' 18''$ E., in 150 fms. [St. Lawrence, Dawson.]

Schizoporella plana, Dawson (= *Myriozoom crustaceum*, Smitt).

Off Bear Island. [St. Lawrence, Dawson.]

Schizoporella hyalina, L.

On stones off Bear Island, 25 fms.

Genus PORELLA, Gray.

Porella struma, Norman.

Lat. $73^{\circ} 41' 6''$ N., long. $22^{\circ} 58' 30''$ E., in 220 fms.

The habit of growth in the only Barents-Sea specimen is Hemescharine; and the dorsal surface of the zoecia is furnished with one or more spinous projections, often of some length.

[North of the Shetland group; Bergen (*Norman*).]

Genus PHYLACTELLA, Hincks.

Phylactella? grandis, n. sp.

Lat. $75^{\circ} 16' 6''$ N., long. $48^{\circ} 19' 26''$ E., 160 fms.

Genus MUCRONELLA, Hincks.

Mucronella scutulata, Busk.

On stones, lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms.

Mucronella simplex, n. sp.

On stones, lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms.

Genus ESCHARA, auctt.

Eschara (Flustra) solida, Stimpson (= *Eschara palmata*, Sars, and *Escharella palmata*, Smitt).

Abundant in lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms. Lat. $79^{\circ} 13' 1''$ N., long. $63^{\circ} 21' 7''$ E. (*Marenzeller*). [Greenland; St. Lawrence.]

Eschara glabra, n. sp.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms.}

Genus CELLEPORA, Fabricius.

Cellepora, ?n. sp.

On *Eudendrium*, lat. $72^{\circ} 32' 3''$ N., long. $36^{\circ} 29' 5''$ E., 128 fms.

Suborder Cyclostomata.

Genus CRISIA, Lamouroux.

Crisia eburneo-denticulata, Smitt.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms.

Genus DIASTOPORA, Lamouroux.

Diastopora obelia, Johnston.

On *Eschara palmata (Flustra solida)*, Stp.), lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms. [St. Lawrence, *Dawson*.]

Genus HORNERA, Lamouroux.

Hornera, ?sp.

Lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 36''$ E., 160 fms.

Genus LICHENOPORA, Defrance.

Lichenopora verrucaria, Fabricius.

On *Balanus*, off Bear Island, 25 fms.

Suborder Ctenostomata.

Genus ALCYONIDIUM, Lamouroux.

Alcyonidium excavatum, n. sp.

Attached to tubes of Annelids, lat. $75^{\circ} 16' 6''$ N., long. $45^{\circ} 19' 5''$ E.

Genus ARACHNIDIUM, Hincks.

Arachnidium simplex, n. sp.

On other Polyzoa, lat. $71^{\circ} 6' N.$, long. $50^{\circ} E.$, 62 fms., off Novaya Zemlya.

Genus BUSKIA, Alder.

Buskia nitens, Alder.

On *Eudendrium*, lat. $72^{\circ} 32' 3'' N.$, long. $36^{\circ} 29' 5'' E.$

Group *b.* ENTOPROCTA.

Order PEDICELLINEA.

BARENTSIA, nov. gen.

Barentsia bulbosa, n. sp.

Lat. $75^{\circ} 16' 6'' N.$, long. $45^{\circ} 19' 36'' E.$, 160 fms.

Genus LOXOSOMA, Keferstein.

Loxosoma singulare, Keferstein.

On *Menipea*, lat. $71^{\circ} 6' N.$, long. $50^{\circ} E.$, off S.W. end of Novaya Zemlya, in 62 fms.

The foregoing list of Barents-Sea Polyzoa embraces thirty-two species, of which six appear to be new. It compares very favourably with the results in this department of the Arctic expedition under Sir G. Nares, by which only seventeen species were obtained.

Marenzeller mentions, in addition to the species in Mr. Grant's collection, the following seven species:—*Hornera lichenoides*, L.; *Alcyonidium gelatinosum*, L.; *Scrupocellaria inermis*, Norm.; *Membranipora Flemingii*, Busk; *Eschara cervicornis*, Pallas (probably = *Porella compressa*, Hincks); *Discopora coccinea*, Abildg., form *ventricosa*, Hass. (= *Mucronella ventricosa*, Hassall); *Cellepora ramulosa*, form *avicularis* (= *Cellepora avicularis*, Hincks).

BRACHIOPODA.

Brachiopoda were rarely met with in Barents Sea. Dr. van Lidth de Jeude mentions *Terebratulina cranium* as having occurred off the north coast of Norway.

PTEROPODA.

Dr. van Lidth de Jeude records *Clio borealis* and *Limacina arctica*.

GASTROPODA.

The following species are mentioned by Dr. van Lidth de Jeude which were not found in Mr. Grant's collection:—*Siphonentalis affinis* and *Hero formosa*, Lovén, the latter in the Matotschkin Shar, where also other species of Nudibranchiata occurred.

CONCHIFERA.

Dr. van Lidth de Jeude mentions *Pecten islandicus*, *P. septemradiatus* and *P. abyssorum?*, *Cardium ciliatum*, and *Panopea norvegica* as occurring in Barents Sea.

On examining the list of animals collected by Mr. Grant it will be found that there are enumerated 153 species, namely—Protozoa 1, Spongia 4, Hydrozoa 13, Actinozoa 2, Echinodermata 16, Annelida 15, Gephyrea 1, Crustacea 24, Polyzoa 32, Brachiopoda 2, Mollusca 36, Pisces 7.

Considering the limited means at Mr. Grant's disposal, and the confined space on board the little vessel, in which fourteen persons were cooped up, it will probably be acknowledged that he has achieved satisfactory results by his efforts to secure specimens for the Exeter Museum.

XXXIII.—*On new Hydroida and Polyzoa from Barents Sea.*
By the Rev. THOMAS HINCKS, B.A., F.R.S.

[Plate XV.]

A FULL list of the Hydroida and Polyzoa obtained by Mr. W. J. A. Grant in the Arctic seas, during the expedition of the Dutch exploring-vessel the 'Willem Barents,' is included in Mr. D'Urban's report, published in the present Number of the 'Annals.' This paper will contain a detailed description of the new forms which occur in the collection.

Subkingdom CŒLEENTERATA.

Class HYDROZOA.

Order HYDROIDA.

Suborder THECAPHORA, Hincks.

SERTULARELLA, Gray.

Sertularella quadricornuta, n. sp. (Pl. XV. figs. 1, 1a.)

Stem almost straight or very slightly sinuated, irregularly